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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,515	11/12/2003	Fei Luo	ORACL-01339US2	7689
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Fliesler Meyer LLP 650 California Street 14th Floor San Francisco, CA 94108			EXAMINER ZHEN, LI B	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/706,515	<b>Applicant(s)</b> LUO ET AL.	
	<b>Examiner</b> Li B. Zhen	<b>Art Unit</b> 2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10,24,26 and 29-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10,24,26,29-39 and 41-50 is/are rejected.
- 7) ☒ Claim(s) 40 and 51 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/12/2008</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 10, 24, 26 and 28 – 51 are pending in the application.

#### ***Allowable Subject Matter***

2. Claims 40 and 51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**6. Claims 10, 24, 26, 29 – 39 and 41 – 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,993,774 to Glass [previously cited] in view of U.S. Patent No. 6951021 to Bodwell et al. [hereinafter Bodwell, cited in the IDS dated 5/12/2008].**

7. As to claim 10, Glass teaches the invention substantially as claimed including a computer-readable medium carrying instructions for processing an invocation at a dynamically generated wrapper [dynamic generation of remote proxies; col. 6, lines 40 – 55], comprising the steps of:

receiving, from an application [Local object 20 may request access to subject object 18; col. 5, line 52 – col. 6, line 7], an invocation by a wrapper object [col. 6, lines 40 – 55], the wrapper object instantiated from a wrapper class [col. 8, lines 47 – 57], the wrapper class instantiated from a superclass [col. 8, lines 30 – 40];

initiating pre-processing by calling a pre-invocation handler configured to execute server-side code [Type object 204 forwards the message to the appropriate EJB function object 206 for preliminary processing; col. 15, lines 38 – 56];

calling the wrapped object [Local object 20 communicates with remote proxy object 22 which then communicates with subject object 18; col. 5, line 52 – col. 6, line 7];

receiving a result from the wrapped object [Reference object 158 decodes the result and passes it to remote proxy 154; col. 13, lines 40 – 58];

initiating post-processing by calling a post-invocation handler configured to execute post processing server-side tasks [Set of streamers 180 handles the encoding and transmission of arguments and results according to the communication protocol used by the receiving object; col. 14, lines 13 – 31]; and

providing the result to the application [Remote proxy 154 then makes the result available to client application 108; col. 13, lines 40 – 58] thereby enabling the application to access vendor specific methods [Communications between client application 108 and server object 110 proceed by client application 108 communicating with remote proxy 154 through its interface IProxy 152; col. 13, lines 25 – 40] of the wrapped resource adapter [proxy object 22 which contains the interfaces; col. 6, lines 40 – 55].

Although Glass teaches the invention substantially, Glass does not specifically teach a wrapper class extended from a superclass which implements a wrapper interface that includes a pre-invocation handler and a post-invocation handler, the invocation directed to a wrapped resource adapter, wherein the server-side code includes transaction processing code and wherein the post-processing sever-side tasks include transaction management.

However, Bodwell teaches a wrapper class extended from a superclass which implements a predefined wrapper interface [allows a descendant of a class to inherit all of its variables and methods from its ancestors as well as create its own. The immediate

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ancestor of a class is known as the class' superclass; col. 7, line 61 – col. 8, line 16] that includes a pre-invocation handler and a post-invocation handler [proxy object 154 scans its associated type object 170 and invokes the function object in set of function objects 172 corresponding to the invoked method; col. 14, lines 25 – 42], the pre-processing code includes calling the pre-invocation handler [EJB function objects 206; col. 15, lines 49 – 67], the pre-invocation handler is configured to execute server-side code that includes transaction processing code [Preliminary common processing may include security checking, error handling, transaction management, or any other suitable common functionality; col. 15, lines 49 – 67], post-processing including calling the post-invocation handler [Server object 110 passes a result through server-side ORB 114 across network 106 to reference object 158. Reference object 158 decodes the result and passes it to remote proxy 154; col. 13, line 52 – col. 14, line 2], the post-invocation handler is configured to perform post-processing server side tasks and the post-processing server-side tasks include transaction management [generated class functionality may include security checking, error handling, transaction management, or any other suitable common functionality; col. 15, lines 12 – 28 and col. 16, lines 1 – 12].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Glass to incorporate the features of Bodwell because this provides wrapper functionality for each method of an object without incurring the overhead associated with wrapper classes used in conventional object-oriented programming environments [col. 4, lines 17 – 38 of Bodwell].

8. As to claim 24, Glass as modified teaches a computer-readable medium storing instructions for processing an invocation at a dynamically generated wrapper [dynamic generation of remote proxies; col. 6, lines 40 – 55 of Glass], comprising the steps of:

receiving, from an application [Local object 20 may request access to subject object 18; col. 5, line 52 – col. 6, line 7 of Glass], a method invocation [In order to isolate the distributed processing communication requirements from local object 20, a remote proxy object 22 may be created on server system 12 and loaded onto client system 14; col. 5, line 52 – col. 6, line 7 of Glass] to a resource adapter [proxy object 22 which contains the interfaces; col. 6, lines 40 – 55 of Glass];

calling a wrapper object for processing the method invocation [Local object 20 communicates with remote proxy object 22 which then communicates with subject object 18; col. 5, line 52 – col. 6, line 7 of Glass] wherein the wrapper object is dynamically generated [byte code generator 42 is to directly generate the executable code corresponding to JClass information 38. JClass information 38 is the definition of the Java class of which remote proxy object 22 is an instance; col. 9, lines 10 – 28 of Glass] from a resource adapter class [col. 15, lines 12 – 28 of Bodwell];

initiating pre-processing by the wrapper object, wherein the wrapper object calls a pre-invocation handler configured to perform server side logic [Type object 204 forwards the message to the appropriate EJB function object 206 for preliminary processing; col. 15, lines 38 – 56 of Glass and col. 15, lines 49 – 67 of Bodwell], wherein the server-side logic includes transaction processing logic [col. 15, lines 49 – 67 of Bodwell];

forwarding the method invocation to the resource adapter [proxy object 22 which contains the interfaces; col. 6, lines 40 – 55 of Glass] by the wrapper object on behalf of the application [Local object 20 communicates with remote proxy object 22 which then communicates with subject object 18; col. 5, line 52 – col. 6, line 7 of Glass];

receiving a result of the method invocation from the resource adapter [proxy object 22 which contains the interfaces; col. 6, lines 40 – 55 of Glass] by the wrapper object [Reference object 158 decodes the result and passes it to remote proxy 154; col. 13, lines 40 – 58 of Glass];

initiating post-processing by the wrapper object, wherein the wrapper object calls a post-invocation handler configured to perform server-side logic [Set of streamers 180 handles the encoding and transmission of arguments and results according to the communication protocol used by the receiving object; col. 14, lines 13 – 31 of Glass and col. 13, line 52 – col. 14, line 2 of Bodwell], wherein the server-side logic include transaction management [col. 15, lines 12 – 28 and col. 16, lines 1 – 12 of Bodwell]; and

providing the result to the application [Remote proxy 154 then makes the result available to client application 108; col. 13, lines 40 – 58 of Glass], thereby enabling the application to access vendor specific methods [Communications between client application 108 and server object 110 proceed by client application 108 communicating with remote proxy 154 through its interface IProxy 152; col. 13, lines 25 – 40 of Glass] of the resource adapter [col. 15, lines 12 – 28 of Bodwell].



9. As to claim 26, Glass as modified teaches a computer-readable medium storing instructions for dynamically generating a wrapper object [dynamic generation of remote proxies; col. 6, lines 40 – 55 of Glass], comprising the steps of:

receiving a resource adapter class [reads the associated class 252 from a class repository, col. 18, lines 56 – 63 of Glass, see Fig. 11, element 252 can be either class or object; Glass also discloses locating the subject object, step 26, Fig. 2, col. 7, lines 19 - 35; Examiner notes that the specification does not specifically define a vendor object, therefore a vendor object is given its plain meaning and is interpreted as object that provides services to other applications. The subject object as disclosed in Glass exists on a server system and provides services to clients, see col. 8, lines 1 – 12. Therefore, the subject object as disclosed in Glass corresponds to the recited vendor object] at an application server [server systems 12; col. 4, line 62 – col. 5, line 8 of Glass];

performing reflection on the resource adapter class [invokes reflection engine 36 to determine information regarding subject class 19; col. 8, lines 1 – 12 of Glass] to identify interfaces implemented by the resource adapter class [proxy object 22 which contains the interfaces; col. 6, lines 40 – 55 of Glass];

dynamically generating a wrapper class at runtime [generate the byte codes that define the class of subject object 18, col. 6, line 55 – col. 7, line 6; remote proxy for the subject object will inherit all of the variables and methods of its ancestors; col. 7, lines 58 – 67 of Glass] that extends from a superclass [col. 8, lines 30 – 40 of Glass], wherein the superclass implements a wrapper interface [col. 7, line 61 – col. 8, line 16 of

Bodwell] that includes a pre-invocation handler and a post-invocation handler [col. 14, lines 25 – 42 of Bodwell], and the wrapper class implements the interfaces identified through reflection [col. 8, lines 11 – 30 of Glass];

instantiating a wrapper object from the wrapper class [class loader 46 takes the generated bytes of remote proxy class 23 stored in memory and loads them into a class structure which then can be instantiated to create remote proxy object 22; col. 10, lines 1 – 10 of Glass];

initiating pre-processing by the wrapper object [col. 15, lines 49 – 67 of Bodwell], wherein the pre-processing code includes calling a pre-invocation handler [col. 14, lines 25 – 42 of Bodwell], wherein the pre-invocation handler is configured to execute server-side code, wherein the server-side code includes transaction processing code [col. 15, lines 49 – 67 of Bodwell]; and

providing the wrapper object [generated interface is associated with subject class 19; col. 8, lines 40 – 48 of Glass] to an application that requires support for the interfaces implemented by the resource adapter class [col. 6, lines 40 – 55 of Glass].

10. As to claim 29, Glass as modified teaches initiating post-processing by the wrapper object, wherein post-processing including calling a post-invocation handler, wherein the post-invocation handler is configured to perform postprocessing server side tasks [Set of streamers 180 handles the encoding and transmission of arguments and results according to the communication protocol used by the receiving object; col. 14,

lines 13 – 31 of Glass], wherein the post-processing server-side tasks include transaction management [col. 15, lines 49 – 67 of Bodwell].

11. As to claim 30, Glass as modified teaches the wrapper object is a proxy generated at runtime [col. 6, line 55 – col. 7, line 2 of Bodwell] and acts as a delegate for an underlying vendor object [col. 15, lines 13 – 28 of Bodwell].

12. As to claim 31, Glass as modified teaches the wrapper object is used to intercept method invocations from an application program to a vendor object [col. 15, lines 12 – 28 of Bodwell] and provide for execution of server side tasks in a pre-invocation handler and a post-invocation handler [col. 14, lines 25 – 42 of Bodwell].

13. As to claim 32, Glass as modified teaches the wrapper object is used to intercept a method invocation against the vendor object [col. 15, lines 12 – 28 of Bodwell].

14. As to claim 33, Glass as modified teaches the wrapper object provides for server side tasks to be performed before sending a wrapped result to the application [col. 13, line 52 – col. 14, line 2 of Bodwell].

15. As to claim 34, Glass as modified teaches the wrapper object is dynamically generated at runtime by a wrapper factory on an application server [col. 6, line 55 – col. 7, line 2 of Bodwell].

16. As to claim 35, Glass teaches retrieved meta information from performing reflection allows an application server to dynamically generate a wrapper class that perfectly matches the vendor class [col. 8, lines 1 – 12].

17. As to claim 36, Glass as modified teaches a wrapper class includes all public interfaces implemented by a vendor class and required by the application [col. 12, lines 55 – 67 of Bodwell].

18. As to claim 37, Glass as modified teaches the application can cast the wrapper object to a vendor interface to access vendor extension methods [col. 15, lines 13 – 28 of Bodwell].

19. As to claim 38, Glass as modified teaches the application server has code for dynamically generating the wrapper [col. 6, lines 40 – 55 of Glass and col. 6, line 55 – col. 7, line 2 of Bodwell].

20. As to claim 39, Glass as modified teaches a wrapper factory uses a static method to dynamically generate a wrapper [col. 8, lines 5 – 16 of Bodwell].

21. As to claims 41 – 50, see the rejections for claims 30 – 39 above.

### **CONTACT INFORMATION**

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (571) 272-3768. The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571)272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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